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Two New Species of Rhysodini (Coleoptera: Carabidae) with Revised Keys to *Yamatosa* Bell & Bell and *Omoglymmius (Pyxiglymmius)* Bell & Bell

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With 13 figures

Summary

Yamatosa schawalleri **n. sp.** (Borneo) and *Omoglymmius (Pyxiglymmius) cycloderus* **n. sp.** (Irian Jaya) are described and figured. New keys for *Yamatosa* Bell & Bell and *Omoglymmius (Pyxiglymmius)* Bell & Bell are provided.

Zusammenfassung

Yamatosa schwalleri **n. sp.** (Borneo) und *Omoglymmius (Pyxiglymmius) cycloderus* **n. sp.** (Irian Jaya) werden beschrieben und illustriert. Neue Bestimmungsschlüssel für *Yamatosa* Bell & Bell und *Omoglymmius (Pyxiglymmius)* Bell & Bell werden vorgestellt.

Contents

1. Introduction 1
2. Genus *Yamatosa* Bell & Bell 2
2.1. *Yamatosa schawalleri* **n. sp.** 2
2.2. Species key 3
3. Genus *Omoglymmius*, Subgenus *Pyxiglymmius* Bell & Bell 3
3.1. *Omoglymmius (Pyxiglymmius) cycloderus* **n. sp.** 3
3.2. Species key 5
4. References 6

1. Introduction

This paper records the addition of two species to the rich, diverse rhysodine fauna of the Indopacific Region. Both species belong to basically Oriental genera, and both extend their higher taxa further eastward. *Yamatosa schawalleri* n. sp., is the first member of its genus from Borneo. *Yamatosa* was to be expected from Borneo

as other species were already known from Java, Formosa and Japan. *Omoglymmius (Pyxiglymmius) cycloderus* n. sp., is more remarkable, coming from the small island of Batanta, which is near New Guinea, and which has probably been connected to it at times of lowered sea levels. The previous eastern limits of the subgenus were in Sulawesi and Luzon. Clearly, our picture of the rhysodine fauna of Indonesia, Malaysia and the Philippines is still incomplete and more surprises await future collectors.

Abbreviations

CMNH Carnegie Museum of Natural History, Pittsburgh, PA.;
SMNS Staatliches Museum für Naturkunde, Stuttgart;
ZSM Zoologische Staatssammlung, München.

Acknowledgments

We are greatly indebted to Dr. WOLFGANG SCHAWALLER (Stuttgart) for the opportunity to describe *Yamatosa schawalleri and* to ALEXANDER RIEDEL (München) for the same privilege regarding *Omoglymmius cycloderus*.

2. Genus *Yamatosa* Bell & Bell

Yamatosa Bell, 1977.
Yamatosa Bell & Bell 1979.

2.1. *Yamatosa schawalleri* n. sp. (Figs. 1–6)

Holotype ♂: Borneo: Sabah, Kinabalu N. P. Headquarters, 1500–1600 m, 11-15-XI, 1996, leg. W. SCHAWALLER (SMNS).
Paratype ♂: Same data as holotype (CMNH).

Etymology: Named for Dr. WOLFGANG SCHAWALLER whose enterprising collecting has brought to light this addition to the numerous rhysodine materials of the East Indies.

Diagnosis: A *Yamatosa* with the marginal groove of the pronotum reduced to an elongate pit about 10% of the length of the pronotum. It is the only known species combining reduced marginal groove with a distinct antennal stylet.

Description: Length 6.5–7.8 mm. Apical stylet of antennal segment XI distinct, though short, blunt; head cordate (Fig. 1.); temporal lobes with medial angles narrow, nearly touching both anterior and posterior to long shallow emargination; mentum (Fig. 2) with single curved transverse row of setae near anterior margin, but without „beard" of setae posteriorly; one pair of postlabial setae.

Pronotum (Fig. 1) elongate; length/greatest width 1.40; apex slightly more narrowed than base; discal striole extending anteriorly to middle of length of pronotum; precoxal carina (Fig. 3) absent; prosternum, propleuron, impunctate.

Elytra with strial punctures fine; Striae II and III abbreviated anteriorly; Striae VI, VII entirely absent, except for short, transverse portion of VII near apex; latter with several setae; other setae absent; metasternum (Fig. 4) without shallow median impression, with punctures confined to lateral margins; abdominal Sternum IV with shallow lateral pits (male); anterior femur (male) with tooth (Fig. 5); male anterior tibia not modified; spurs of middle, hind legs nearly equal; hind calcar (Fig. 6) small, forming sharp angle distinctly proximal to apex of tibia. Female unknown.

Distribution: Known only from the Sarawak holotype.

2.2. Species key

This is a revision of earlier keys found in BELL & BELL (1979, 1985, 1987, 1989).

1 Complete pronotal marginal groove 4
– Incomplete or absent pronotal marginal groove 2

2 Pronotal marginal groove absent ..... *sinensis* (China)
– Pronotal marginal groove reduced to 0.5 or less distance from base 3

3 Pronotal marginal groove reduced to 0.5–0.3 distance from base ..... *reitteri* (Sikkim, Bhutan, Nepal)
– Pronotal marginal groove reduced to 0.10 distance from base (Figs. 1–6) ..... *schawalleri* **n. sp.** (Borneo)

4 Prothoracic pleuron impunctate; punctures of metasternum limited to lateral margin ... 5
– Prothoracic pleuron densely punctate; metasternum with numerous punctures on disc and a row along lateral margin ..... *kryzhanovskyi* (N. Vietnam)

5 Discal striole of pronotum extends anteriorly 0.90 length of pronotum .. *arrowi* (Sikkim)
– Discal striole of pronotum extends anteriorly 0.50 or less length of pronotum 6

6 Prosternum with distinct precoxal carina 7
– Prosternum without distinct precoxal carina 8

7 Precoxal carina extended more than 0.75 distance from coxa to anterior margin of prosternum; discal striole 0.5 pronotal length from base ..... *longior* (Malay, Sumatra, Java)
– Precoxal carina extended about 0.33 of distance from coxa to anterior margin of prosternum; discal striole 0.33 pronotal length from base ..... *peninsularis* (Malay)

8 Antennal segment XI without stylet 10
– Antennal segment XI with short, blunt stylet 9

9 Punctures of elytral striae I-IV rounded; hind calcar of ♂ triangular or pointed ..... *niponensis* (Japan, Taiwan)
– Punctures of elytral striae elongate; hind calcar of ♂ obtuse ..... *kabakovi* (N. Vietnam)

10 Mentum without punctures; profemoral tooth lacking in both ♂ and ♀ ..... *smetanorum* (Nepal)
– Mentum with punctures; ♂ with profemoral tooth, absent in ♀ 11

11 Head evenly rounded posteriorly, widest point just posterior to eye; eye only moderately reduced, deeper than long (100 ommatidia) ..... *draco* (Pakistan, Bhutan, China)
– Head broadened posteriorly, widest point far posterior to eye; eye markedly reduced, longer than deep (50 ommatidia) ..... *boysi* (India, Pakistan).

3. Genus *Omoglymmius*, Subgenus *Pyxiglymmius* Bell & Bell

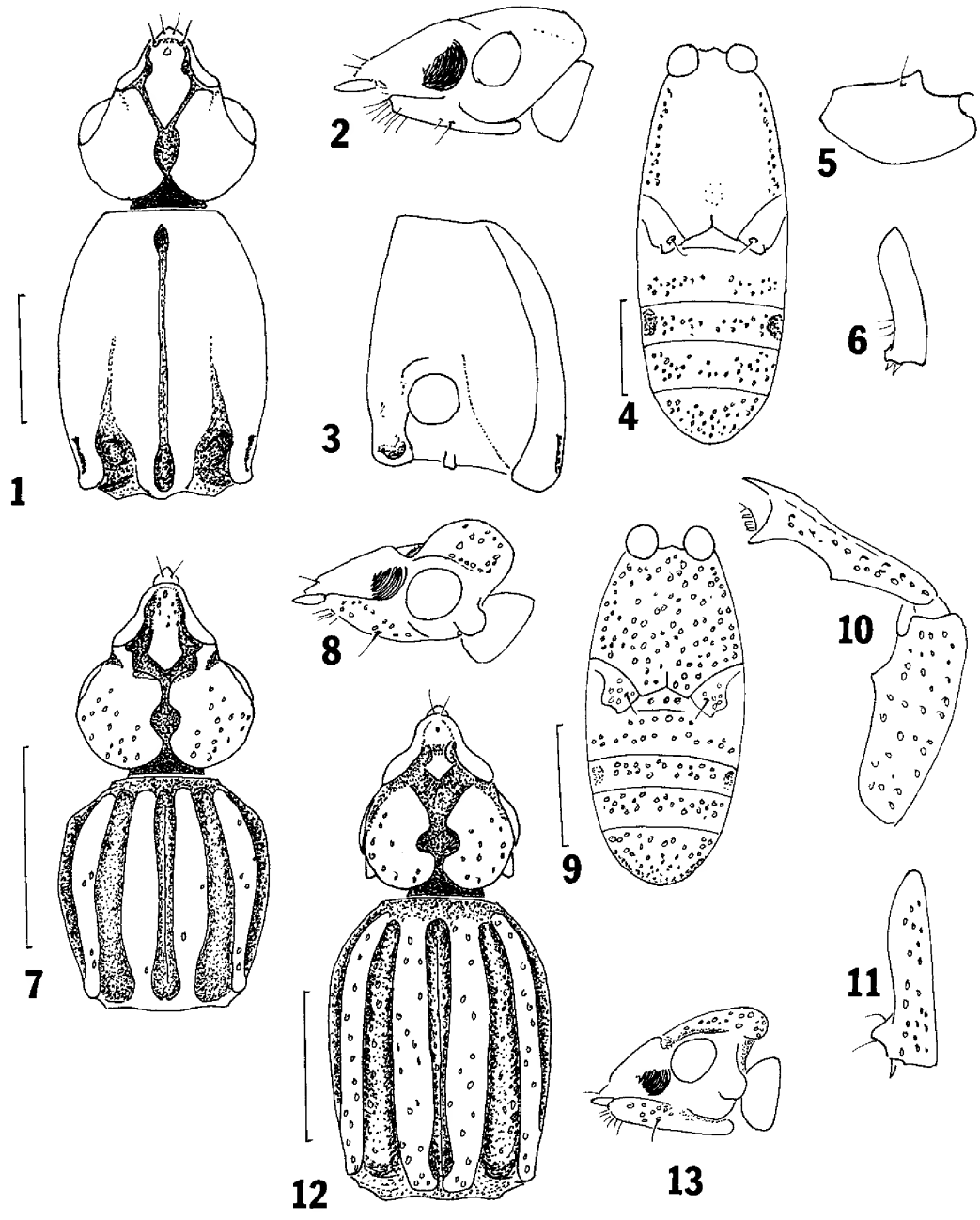
Omoglymmius Ganglbauer, 1892.
Pyxiglymmius Bell & Bell 1978.
Omoglymmius (Pyxiglymmius) Bell & Bell, 1982.

3.1. *Omoglymmius (Pyxiglymmius) cycloderus* **n. sp.** (Figs. 7–11)

Holotype ♂: Irian Jaya: Sorung-Prov., Batanta Isl. Waylebet, 500–820 m, 29-X-1-XI, 1996, leg. A. RIEDEL (ZSM).

Etymology: The name *cycloderus* means „round neck" and refers to the rounded shape of the pronotum, unusual in the subgenus.

Diagnosis: A species of *Pyxiglymmius* with an oblique angle of the anterolateral pronotal margin; dorsal surface of temporal lobe highly convex, postorbital tu-



Figs. 1–6. *Yamatosa schawalleri* n. sp. ♂. – 1. Head and pronotum, dorsal view; – 2. head, left lateral view; – 3. prothorax, left ventrolateral view; – 4. metasternum, abdomen; – 5. profemur, lateral view; – 6. metatibia, lateral view.

Figs. 7–11. *Omoglymmius (Pyxiglymmius) cycloderus* n. sp., ♂. – 7. Head and pronotum, dorsal view; – 8. head, left lateral view; – 9. metasternum, abdomen; – 10. profemur, protibia, lateral view; – 11. metatibia, lateral view.

Figs. 12–13. *Omoglymmius (Pyxiglymmius) armatus* (for comparison). – 12. Head and pronotum, dorsal view; – 13. head, left lateral view. – Scale bars: 1.0 mm.

bercles of head not visible in dorsal view; antennal segment XI as wide as long, and calcars much smaller than in related species. Except for these features it most closely resembles *Omoglymmius armatus* (Figs. 12–13).

Description: Length 5.5 mm; antennal segment XI as wide as long, its apex very obtuse; basal setae present on antennal segments V-XI; ring setae on Segments V-XI, head (Fig. 7) longer than wide; clypeus punctate, continuous with median lobe; latter rhomboidal, wider than long; temporal lobes with both pairs of medial angles closely approximate in midline, frontal space small, rounded; temporal lobes in dorsal view rounded posteriorly, with about 12 punctures each; temporal lobe (Fig. 8) in lateral view, strongly convex dorsally, forming high dome above eye; postorbit flat dorsal to small but prominent tubercle; tubercle not visible in dorsal view, latter opposite ventral third of eye.

Pronotum (Fig. 7) relatively short, length/greatest width 1.1; base and apex of pronotum nearly equally narrowed, much narrower than greatest width; anterior 0.20 of lateral margin oblique; paramedian grooves as broad as inner carinae; marginal groove dilated, as wide as outer carinae at middle; both pairs of carinae narrow, inner one slightly broader than outer one; inner carinae each with 0–2 punctures; outer ones with 4–6 punctures.

Elytra moderately elongate; apical tubercles very small; strial punctures coarse; one seta in apex of Stria IV, one in apical striole; several near apex of Stria VII; metasternum densely, coarsely punctate (Fig. 9); fused abdominal sterna 2–3 with coarse punctures in two transverse rows; anterior femur of male (Fig. 10) with small tooth, latter twice as far from base as from apex; anterior tibia of male (Fig. 10) with angle or vestigial tooth at middle, with short external groove near apex; calcar of middle tibia very small, about as wide as basal width of tibial spur; hind calcar (Fig. 11) much smaller than in *O. (P.) strabus* and related species, its outline a symmetrical triangle with obtuse apex. Female unknown.

Distribution: Known only from the type locality. Batanta is a moderate sized island north of the larger island of Salawati, just west of the western tip of New Guinea. This marks an eastern extension of the range of the east Asia Subgenus *Pyxiglymmius.*

3.2. Species key

Earlier descriptions and keys are found in BELL & BELL (1982, 1985, 1993).

1 Many elytral setae present the length of every stria ..... ***pilosus*** (Sumatra, Borneo)
– Elytral setae absent from some striae 2

2 Elytral intervals III, V, VI, VII narrow, carinate ..... ***multicarinatus*** (Sulawesi)
– Elytral intervals not carinate 3

3 Postorbit in lateral view convex, in form of deep but short ill-defined postorbital tubercle 4
– Postorbit flat, bounded ventrally by well-defined sub or postorbital tubercle 6

4 Medial emargination of temporal lobe relatively shallow, its depth about 0.25 of its length; basal setae present on antennal Segments VIII-X ..... ***lederi*** (Caucasus)
– Medial emargination of temporal lobe deep, its depth 0.5 or more of its length; basal setae present on antennal Segments V or VI-X 5

5 Temporal lobe broadly rounded posteriorly; postorbital tubercle scarcely visible in dorsal view; anteromedial margin of temporal lobe strongly curved ..... ***subcaviceps*** (Vietnam)
– Temporal lobe with distinct occipital angle, margin markedly oblique between occipital

angle and eye; postorbital tubercles prominent in dorsal view; anteromedial margin of temporal lobe oblique ..... ***crassiusculus*** (Japan)

6 Five to six setae present on length of Stria II, IV ..... ***krikkeni*** (Sumatra)
– Setae absent from length of Stria II; 0–2 setae present near apex of Stria IV **7**

7 Outer carina of pronotum distinctly narrower than paramedian groove, straight, of even width; marginal groove dilated, subequal to outer carina **8**
– Outer carina of pronotum wider than paramedian groove, widest near middle, tapered anteriorly and posteriorly; marginal groove narrow **9**

8 Outer carina with 4–6 punctures; inner carina with 1–3 punctures; lateral margin of pronotum oblique anteriorly; postorbital tubercle not visible in dorsal view (Figs. 7–11) ..... ***cycloderus*** **n. sp.** (Irian Jaya: Batanta Isl.)
– Outer carina with 15 or more punctures; inner carina with 20 or more punctures; lateral margin of pronotum evenly curved anteriorly; postorbital tubercle visible in dorsal view (Figs. 12–13) ..... ***armatus*** (Andamans, Nicobars)

9 Postorbital tubercle large, prominent, visible in dorsal view; paramedian grooves relatively shallow **10**
– Postorbital tubercle small, not visible in dorsal view; paramedian grooves deep, more sharply defined **11**

10 Elytral intervals flat; intervals, pronotal carinae, temporal lobes strongly microsculptured; temporal lobe with 2–3 coarse punctures; lateral pit of Sternum IV in ♀ longitudinally striate, brace weakly developed ..... ***opacus*** (Sumatra)
– Elytral intervals convex; intervals, pronotal carinae, temporal lobes without microsculpture; temporal lobe with 7–10 coarse punctures; lateral pit of Sternum IV in ♀ not striate, brace strongly developed ..... ***hesperus*** (Mentawei)

11 Apex of antennal Segment XI with short, stubby stylet; temporal lobes with 20 or more punctures ..... ***cristatus*** (Philippines)
– Apex of antennal Segment XI without stylet; temporal lobe with 1–12 punctures ..... ***strabus*** (Borneo, Java, Sumatra, Malay Peninsula).

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